CLAIMS

WHAT IS CLAIMED IS:

1. An aircraft adapted for covert deployment and low vulnerability to hostile detection and aggression, said aircraft comprising:

a fuselage having a pair of sidewalls and a bottom adapted to form an armored payload bay;

a pair of wings connected to the fuselage, the wings adapted to allow the aircraft to be transported within a larger aircraft;

wherein each sidewall includes at least one pulse ejector thrust augmentor (PETA) bank, each bank canted such that a thrust exhaust produced by each bank is directed down and away from a centerline of the payload bay ; and

wherein the bottom is adapted to allow ingress and egress of cargo from the payload bay.

2. The aircraft of Claim 1, wherein the wings have a non-alterable wingspan adapted to allow the aircraft to be transported with the larger aircraft and deployed from the larger aircraft when the larger aircraft is airborne.

3. The aircraft of Claim 1, wherein the wings are foldable so that the aircraft can be transported within the larger aircraft to a remote ground location and deployed therefrom.

4. The aircraft of Claim 1, wherein each sidewall further includes a plurality of layers adapted to provide an interior area of the payload bay protection from infiltration by flying objects.

5. The aircraft of Claim 4, wherein the plurality of layers includes an outer skin of each sidewall.

6. The aircraft of Claim 4, wherein the plurality of layers includes an integral storage compartment formed in each sidewall.

7. The aircraft of Claim 4, wherein the plurality of layers includes an outer side panel of each PETA bank.

8. The aircraft of Claim 4, wherein the plurality of layers includes a plurality of pulsejet engines included in each PETA bank.

9. The aircraft of Claim 4, wherein the plurality of layers includes an inner side panel of each PETA bank.

10. The aircraft of Claim 4, wherein the plurality of layers includes a layer of acoustical insulating included in each sidewall.

11. The aircraft of Claim 4, wherein the plurality of layers includes a payload bay panel included in each sidewall.

12. The aircraft of Claim 1, wherein the fuselage includes long, aligned edges adapted to reduce radar cross section returns.

13. The aircraft of Claim 1, wherein an exterior surface of each sidewall is canted to reduce radar cross section side sector returns.

14. The aircraft of Claim 1, wherein a cruise propulsion system is included within an interior portion of the fuselage to reduce radar cross section returns and acoustical detection.

15. The aircraft of Claim 14, wherein the cruise propulsion system includes a high efficiency, high bypass turbofan to cool exhaust from the cruise propulsion system and thereby reduce infrared detection.

16. The aircraft of Claim 1, wherein the fuselage includes a lower aft deck adapted to reduce infrared detection.

17. The aircraft of Claim 1, wherein each PETA bank includes at least one absorber adapted to narrow an acoustical bandwidth of noise generated by each PETA propulsion device and thereby reduce acoustical detection.

18. The aircraft of Claim 1, wherein the fuselage and wings include a camouflage scheme to reduce visual detection.

19. A method for enhancing protection of an aircraft against hostile detection and aggression, said method comprising:

constructing a pair of wings of the aircraft adapted to allow the aircraft to be transported within a larger airborne aircraft;

providing an armored payload bay within a fuselage of the aircraft having a pair of armored walls adapted to protect an interior area of the payload bay from infiltration by flying objects, and an armored bottom adapted to allow ingress and egress of cargo from the payload bay;

disposing within each sidewall at least one pulse ejector thrust augmentor (PETA) bank canted outward such that a thrust exhaust produced by each bank is directed down and away from a centerline of the payload bay; and

canting an exterior surface of each sidewall to reduce radar cross section returns.

20. The method of Claim 19, wherein constructing a pair of wings comprises constructing the wings to have a fixed wingspan adapted to allow the aircraft to be transported within, and deployed from, the larger aircraft while the larger aircraft is airborne.

21. The method of Claim 19, wherein constructing a pair of wings comprises constructing foldable wings adapted to be folded so that the aircraft can be transported within the larger aircraft to a remote ground location and deployed therefrom.

22. The method of Claim 19, wherein providing an armored payload bay comprises disposing in each sidewall a plurality of protective layers including at least two of the following:

an outer skin of each sidewall;

an integral storage compartment formed in each sidewall;

a protective outer side panel of each PETA bank;

a plurality of PETA propulsion devices included in each PETA bank;

a protective inner side panel of each PETA bank;

a layer of acoustical insulating included in each sidewall; and

a payload bay panel included in each sidewall.

23. The method of Claim 19, further comprising aligning the edges of the fuselage to reduce radar cross section returns.

24. The method of Claim 19, further comprising disposing a cruise propulsion system within an interior area of the fuselage to reduce radar cross section returns and acoustical detection.

25. The method of Claim 24, further comprising disposing within the cruise propulsion system a high efficiency, high bypass turbofan adapted to cools exhaust from the cruise propulsion system to reduce infrared detection.

26. The method of Claim 19, further comprising providing the fuselage with a lower aft deck adapted to reduce infrared detection.

27. The method of Claim 19, further comprising providing each PETA bank with at least one absorber adapted to narrow an acoustical bandwidth of noise generated by each PETA propulsion device and thereby reduce acoustical detection.

28. The method of Claim 19, further comprising camouflaging the fuselage and wings to reduce visual detection.

29. A vertical take off and landing aircraft comprising:

a fuselage having an armored bottom and a pair of armored sidewalls including a plurality of protective layers adapted to protect an interior area of a payload bay from infiltration by flying objects, the armored bottom further adapted to allow ingress and egress of cargo from the payload bay;

a pair of fixed wings connected to the fuselage, the wings having a non-alterable wingspan adapted to allow the aircraft to be transported within, and deployed from, a larger airborne aircraft; and

a plurality of pulse ejector thrust augmentor (PETA) banks, wherein at least one PETA bank is disposed within each sidewall and canted outward such that a thrust exhaust produced by each bank is directed down and away from a centerline of the payload bay;

wherein an exterior surface of each sidewall is canted to reduce radar cross section returns.

30. The aircraft of Claim 29, wherein the plurality of layers includes at least two of:

an outer skin of each sidewall;

an integral storage compartment disposed in each sidewall;

an outer side panel of each PETA bank;

a plurality of PETA propulsion devices included in each PETA bank;

an inner side panel of each PETA bank;

a layer of acoustical insulating included in each sidewall; and

a payload bay panel included in each sidewall.

31. The aircraft of Claim 29, wherein a plurality of major break lines in an exterior surface of the aircraft includes long, aligned edges adapted to reduce radar cross section returns.

32. The aircraft of Claim 29, wherein a cruise propulsion system is included within an interior portion of the fuselage to reduce radar cross section returns and acoustical detection.

33. The aircraft of Claim 32, wherein the cruise propulsion system includes a high efficiency, high bypass turbofan to cool exhaust from the cruise propulsion system and thereby reduce infrared detection.

34. The aircraft of Claim 29, wherein the fuselage includes a lower aft deck adapted to reduce infrared detection.

35. The aircraft of Claim 29, wherein each PETA bank includes at least one absorber adapted to narrow an acoustical bandwidth of noise generated by each PETA propulsion device and thereby reduce acoustical detection.

36. The aircraft of Claim 29, wherein the fuselage and wings include a camouflage scheme to reduce visual detection.

37. A flight capable mobile platform adapted for covert deployment and low vulnerability to hostile detection and aggression, said mobile platform comprising:

a fuselage having an armored bottom and a pair of armored sidewalls including a plurality of protective layers adapted to protect an interior area of a payload bay from infiltration by flying objects, the armored bottom further adapted to allow ingress and egress of cargo from the payload bay;

a pair of wings connected to the fuselage, the wings adapted to allow the flight capable mobile platform to be transported within a transporting mobile platform; and

a plurality of pulse ejector thrust augmentor (PETA) banks, wherein at least one PETA bank is disposed within each sidewall and canted outward such that a thrust exhaust produced by each bank is directed down and away from a centerline of the payload bay;

wherein an exterior surface of each sidewall is canted to reduce radar cross section returns.

38. The flight capable mobile platform of Claim 37, wherein the wings have a non-alterable wingspan adapted to allow the flight capable mobile platform to be transported within, and deployed from, the transporting mobile platform when the transporting mobile platform is airborne.

39. The flight capable mobile platform of the Claim 37, wherein the wings are foldable so that the flight capable mobile platform can be transported within the transporting mobile platform to a remote ground location and deployed therefrom.

40. The flight capable mobile platform of Claim 37, wherein the plurality of layers includes at least two of:

an outer skin of each sidewall;

an integral storage compartment disposed in each sidewall;

an outer side panel of each PETA bank;

a plurality of PETA propulsion devices included in each PETA bank;

an inner side panel of each PETA bank;

a layer of acoustical insulating included in each sidewall; and

a payload bay panel included in each sidewall.

41. The flight capable mobile platform of Claim 37, wherein a plurality of major break lines in an exterior surface of the flight capable mobile platform includes long, aligned edges adapted to reduce radar cross section returns.

42. The flight capable mobile platform of Claim 37, wherein a cruise propulsion system is included within an interior portion of the fuselage to reduce radar cross section returns and acoustical detection.

43. The flight capable mobile platform of Claim 42, wherein the cruise propulsion system includes a high efficiency, high bypass turbofan to cool exhaust from the cruise propulsion system and thereby reduce infrared detection.

44. The flight capable mobile platform of Claim 37, wherein the fuselage includes a lower aft deck adapted to reduce infrared detection.

45. The flight capable mobile platform of Claim 37, wherein each PETA bank includes at least one absorber adapted to narrow an acoustical bandwidth of noise generated by each PETA propulsion device and thereby reduce acoustical detection.

46. The flight capable mobile platform of Claim 37, wherein the fuselage and wings include a camouflage scheme to reduce visual detection.